make less human interference, perhaps it is worth to use the information provided by a library function and its variables, and the information collected from previous iterations. It could save time to have several iterations rather than one iteration especially when the software system is under its early development stage.

In order to meet each user's special need, the software system should provide user interface to modify properties, define new properties, and specify the corresponding actions.

Although the present invention and its advantage have been described in detail, it should be understood that for those skilled in the field, various changes, substitutions and alterations can be made therein without departing from the spirit and scope of the invention as defined by the appended claims. For example, equipped with higher artificial intelligent database, the software system based on the invention could work without any interference of human being. Another example is that the properties assigned to the items such as symbols, figures, formulas could be more or less depending on how intelligent and complex the software system is. Also the properties could be assigned to an item or to the item on one side or item on another side or both items on each side for the associated item pairs. Further, the properties attached could be implemented in many different ways. For example, one can have many properties and assign each item only one property; also one can have less properties and assign several properties to the same item, or first assign a property to an item, then assign another property to the property of that item, further one can assign a particular property to many items.

WHAT IS CLAIMED IS:

1. A general computing software system for extracting, reconstructing, saving, and retrieving the information provided by an information source, comprising:

input means for converting said information source into a file of a proper format, inputting, creating, and modifying the information;

output means for presenting information in various forms;

storage means for saving, supplying, and maintaining information methodically; and

processing means for extracting the information from said file, generating programming code to reconstruct the information, presenting, saving, and retrieving the

information in proper formats with the aid of said input means, said output means, said storage means.

2. The system of claim **1**, wherein

said input means is operable to directly or indirectly create, modify, and display mathematics formulas and figures, and collect information from them;

said input means is operable to input special information from an intelligent source such as user or artificial intelligent software; and

said storage means comprises of packages, or documents, or head files, or help files, or source codes, or static link libraries, or dynamic link libraries or all of them and the methodology to maintain them.

3. A general computing software system provides a method for extracting, reconstructing, saving, and retrieving the information provided by an information source, said method comprising the following steps:

step of setting up environment;

step of converting said information source into a file with a proper format;

step of applying pattern recognition on selected portions of said file;

step of associating properties to items;

step of processing curve;

step of processing equation and formula;

step of generating source code files; and

step of updating database.

4. A method of claim **3**, wherein said step of setting up environment, further includes defining new properties and the corresponding actions.

5. The method of claim **3**, wherein said step of associating properties to items:

said properties are any things associated with items, which are needed by said processing means to extract useful information;

said items are numbers, or strings, or mathematics symbols, variables, parameters, functions, equations, formulas, figures, and various components of figures existed in said working documents, or help files, or result files, as well as those generated by said processing module; and

said associating is such a process that one property can bind with many items, one item can bind with many properties, and one property can bind with other properties explicitly or implicitly, directly or indirectly.

6. A method according to claim **3**,. wherein said step of processing curve further includes:

step of separating curves;

step of selecting one curve;

step of binding the parameters to said curve; and

step of representing said curve by a set of ordered pairs.

7. A method according to claim **3**, wherein said step of processing equation and formula further includes:

step of assigning properties to said equation or said formula as well as its components;

step of handling external functions;

step of generating tokens by scanner;

step of generating symbol tables by parser;

step of displaying the regenerated the equation and formula;

step of displaying the related properties and pinpointing the problems; and

step of changing or assigning more properties to said equation or said formula and its components.

8. A method according to claim **7**, wherein said step of handling external functions, includes assigning as many properties to external functions, their variables, and the related parameters as needed directly and indirectly, recursively and non-recursively.

9. A method according to claim 7, wherein said step of displaying the related properties further includes:

displaying the properties related to an item simultaneously;

displaying the properties related to an item sequentially, that is, displaying one property of an item, then another property of the item, then another property of the item and so on;

displaying the property's property of an item and so on; and

displaying the properties in any combination of above ways.

10. The method of claim 7, wherein said step of generating tokens by scanner:

said token is an inseparable item possibly associated with some properties explicitly or implicitly;

said scanner is a two dimension processing in nature; and

said scanner uses not only the literal information from an item but also the properties associated with said item as well as the information it obtains from handling previous blocks.

11. The method of claim 7, wherein step of generating symbol tables by parser:

said symbol tables are instances of data structures to describe the relation among all the components of equations or formulas;

said parser is a two dimension processing in nature;

said parser uses a grammar based on various mathematics structures and information provided by the properties associated with said items;

said parser can further collect information about an items from working documents or databases and require specific information from an intelligent source when it needs; and

said parser can insert extra items into the symbol tables to describe the mathematics formula effectively.

12. The method of claim **3**, where in said step of updating database, further includes:

step of selecting a one or more working documents, model files, and source code files to save;

step of converting data into different format and saving data in a desired format;

step of creating help files; and

step of updating and maintaining the database.

13. A general computing software system provides a method for extracting, reconstructing, saving, and retrieving the information of an information source by making mathematics formulas as the bridges between the mathematics formulas in a document, and the mathematics formulas and library functions in databases.